

NOTE ON THE SALMON AND TROUT OF JAPAN.

By DAVID STARR JORDAN,
Of Stanford University, California.

In these Proceedings for 1902, Jordan and Snyder^a have given a review of the species of salmon and trout in Japan. Recently, Mr. T. Kitahara has published^b some useful criticisms on this paper, derived from his experience in the Imperial Bureau of Fisheries.

Mr. Kitahara is certainly right in thinking that the *Salmo perryi* of Brevoort is the trout called *Ito*, *Salmo blackstoni* of Hilgendorf. That species must therefore become *Hucho perryi* instead of *Hucho blackstoni*.

I think that Mr. Kitahara is also right in identifying the *Salmo masou* of Brevoort and the *Oncorhynchus yessoensis* of Hilgendorf with the common trout of Japan called Ame-no-uwu, Kawa-masu, or Yamabe, in its different stages of growth. This is the *Salmo macrostoma* of Günther, the species wrongly called *Salmo perryi* by Jordan and Snyder. This species should stand as *Salmo masou*.

Mr. Kitahara states that the humpback salmon (Karafuto-masu) in Japan as in America have black spots on the caudal fin. This species was not seen by Jordan and Snyder in Japan. The supposed humpback salmon or Yezomasu, figured by Jordan and Snyder as *Oncorhynchus masou*, was probably a dwarfish spawning female of *Oncorhynchus keta*.

Mr. Kitahara is probably right in regarding the Iwana, *Salvelinus pluvius* (Hilgendorf), the common charr or red-spotted trout of Japan, as inseparable from *Salvelinus malma*. *Salvelinus kundsha*, of the Kurile Islands, is however a different fish. The name *Salmo miltschitch* of Walbaum is earlier than *Salmo kisutch* Walbaum, and is based also on the silver salmon.

^a Proc. U. S. Nat. Mus., XXIV, 1902, p. 567, et seq.

^b Annotationes Zoologicae Japonenses, V, Pt. 3, 1904, pp. 117-120.

The species of Salmonidae in Japan are therefore the following:

Oncorhynchus nerka (Walbaum); Beni-masu.

Oncorhynchus milktsitch (Walbaum); Gin-masu.

Oncorhynchus keta (Walbaum); Shaké or Saké.

Oncorhynchus gorbusha (Walbaum); Karafuto-masu.

Salmo mason (Brevoort); Masu, Ame-no-uwo, Yamabe.

Hucho perryi (Brevoort); Ito.

Salvelinus malma (Walbaum); Iwana, Ame-masu.

Salvelinus kundscha (Walbaum).

Plecoglossus altivelis (Schlegel); Ayu.

The king salmon *Oncorhynchus tshawytscha* (Walbaum) is not yet known from Japanese waters.